



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,689	03/03/2005	Yong-Ho Yang	8054-92 (LW8052PC/US)	5285
22150	7590	09/23/2008	EXAMINER	
F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			SCHICHTER, ANDREW M.	
ART UNIT	PAPER NUMBER			
	2871			
MAIL DATE	DELIVERY MODE			
09/23/2008	PAPER			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,689	Applicant(s) YANG ET AL.
	Examiner ANDREW SCHECHTER	Art Unit 2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 06 June 2008.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) 4 and 9-23 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-3 and 5-8 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 03 March 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 3/3/05

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim recites "a thickness of the first color filter is no less than a thickness of a pixel unit". This is unclear and unnecessarily confusing. The term "pixel unit" is not used in the specification, nor is it a conventional term when discussed in terms of a "thickness". It appears to the examiner that the claim is intended to state that the width of the color filter is no less than the width of a single pixel region [compare the applicant's discussion of Fig. 2], and for examining purposes this is assumed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Park et al.*, US 2002/0113931 in view of *Ohgawara et al.*, U.S. Patent No. 5,617,230.

Park discloses [see Fig. 1a, for instance] a liquid crystal display device comprising: a first substrate [10], a second substrate [20] being opposite to the first substrate; color filters [22] formed on the second substrate; and a liquid crystal layer [30] disposed between the substrates. *Park* discloses a normally black arrangement with TFT [11] supplying a voltage to the pixel electrode [12], so that an electric field is generated between it and the common electrode [23] on the opposite substrate, with the polarizers [14 and 24] aligned so that the pixel becomes dark (light does not pass through) when the electric field is zero [see paragraphs 0034 and 0051, for instance]. *Park* does not disclose the limitations related to the border of the display.

Ohgawara discloses [see Fig. 2, for instance] an analogous liquid crystal display device comprising: a first substrate and a second substrate opposed to the first substrate [see abstract, for instance], a first color filter [17] formed on a first portion [15] of the second substrate, the first portion corresponding to a first area of a display area, the first area being a border area of the display area [see Fig. 2], a second color filter [13] formed on a second portion [11] of the second substrate, the second portion corresponding to a second area of the display area, the second area being the display area except the border area; a first liquid crystal layer [see abstract] disposed between

the first and second substrates in the first area, and a second liquid crystal layer disposed between the first and second substrates in the second area [see col. 7, line 43—col. 8, lines 15, for instance; note that these are just different portions of the same liquid crystal layer, as in the present specification]. Ohgawara also discloses that a voltage is applied in such a manner so as to maintain the peripheral pixels in a light-shielded state [see col. 7, line 43 - col. 8, line 15, for instance], which Ohgawara explains can be either a "selective voltage" or a "non-selective voltage" depending on the type of LCD being used. In plainer language, the appropriate voltage is applied to create a dark-state pixel, or to have the liquid crystal in that pixel region act as a closed shutter to prevent light from passing through to the viewer. In the case of *Park*, which is a normally black device, in order to produce the desired light-shielded state, a zero electric field would be formed on the first liquid crystal layer [by applying 0 volts].

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the border arrangement of *Ohgawara* in the device of *Park*, motivated by *Ohgawara's* teaching that this renders the display easier to be seen [see abstract]. Claim 1 is therefore unpatentable.

The zero electric field is formed by nullifying an electric potential difference in the first liquid crystal layer [by applying 0 volts], so claim 2 is also unpatentable. There are a plurality of TFT formed on a third portion of the first substrate, the third portion corresponding to the first area; a plurality of first pixel electrodes being arranged in a matrix shape on a fourth portion of the first substrate, the fourth portion corresponding to the first area, the first pixel electrodes electrically connected to electrodes of the TFTs

to which an image signal is applied; and a common electrode formed on the first and second color filter, wherein the zero electric field is formed by nullifying an electric potential difference in the first liquid crystal layer, so claim 3 is also unpatentable. The zero electric field is formed by forming an electrode layer on one of the first and second substrates, the electrode layer making contact with the first liquid crystal layer [see Fig. 1 of *Park*], so claim 5 is also unpatentable. The thickness (width) of the first color filter is no less than a thickness (width) of a pixel unit (region) [see Fig. 2 of *Ohgawara*, and note the discussion above under 35 USC 112], so claim 6 is also unpatentable.

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Park et al.*, US 2002/0113931 in view of *Ohgawara et al.*, U.S. Patent No. 5,617,230 as applied above, and further in view of *Takao et al.*, U.S. Patent No. 5,101,289.

Ohgawara discloses [see Fig. 2] that the first color filter comprises three layers [red, green, and blue, for instance], but does not necessarily disclose that each of the three layers has a different thickness from each other.

Takao discloses [see Fig. 3] an analogous LCD having three color filter layers [R, G, and B], each of which has a different thickness from the others. It would have been obvious to one of ordinary skill in the art to do so in the above device, motivated by *Takao*'s teaching that the different thicknesses enable the device to obtain desired spectral characteristics [col. 5, lines 42-45], meaning for instance that the hues of the colors can be adjusted to improve the coloration and the quality of the display. Claim 7 is therefore unpatentable.

The limitation of claim 8, that a thickness of the first color filter is regulated by controlling a coating thickness in a process in which the first color filter is coated on the second substrate or by a slit exposure process, is a product-by-process limitation which does not structurally distinguish the claimed device from that of the prior art [see MPEP 2113]. Claim 8 is therefore unpatentable.

Election/Restrictions

7. Applicant's election without traverse of Group 1, claims 1-16, in the reply filed on 4 March 2008 is acknowledged.
8. Applicant's election without traverse of Group I, Species A1, and Species B2, claims 1-3 and 5-8 readable thereon, in the reply filed on 6 June 2008 is acknowledged.
9. Claims 4 and 9-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on 4 March 2008 and the reply filed on 6 June 2008.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4,412,214 to *Tanaka et al.* discloses the idea of having a non-selective voltage applied to the liquid crystal in the periphery.

U.S. Patent No. 7,362,338 to *Gettemy et al.* discloses the idea of having a border frame several pixels wide in order to improve character viewability.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Schechter/
Primary Examiner, Art Unit 2871
Technology Center 2800
21 September 2008